

2012

Rise 60

Service Manual



SRAM LLC Warranty

Extent of Limited Warranty

SRAM warrants its products to be free from defects in materials or workmanship for a period of two years after original purchase. This warranty only applies to the original owner and is not transferable. Claims under this warranty must be made through the retailer where the bicycle or the SRAM component was purchased. Original proof of purchase is required.

Local law

This warranty statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state (USA), from province to province (Canada), and from country to country elsewhere in the world.

To the extent that this warranty statement is inconsistent with the local law, this warranty shall be deemed modified to be consistent with such law, under such local law, certain disclaimers and limitations of this warranty statement may apply to the customer. For example, some states in the United States of America, as well as some governments outside of the United States (including provinces in Canada) may:

- a. Preclude the disclaimers and limitations of this warranty statement from limiting the statutory rights of the consumer (e.g. United Kingdom).
- b. Otherwise restrict the ability of a manufacturer to enforce such disclaimers or limitations.

Limitations of Liability

To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event shall SRAM or its third party suppliers be liable for direct, indirect, special, incidental, or consequential damages.

Limitations of Warranty

This warranty does not apply to products that have been incorrectly installed and/or adjusted according to the respective SRAM technical installation manual. The SRAM installation manuals can be found online at www.sram.com, www.rockshox.com, www.avidbike.com, www.truvativ.com, or www.zipp.com.

This warranty does not apply to damage to the product caused by a crash, impact, abuse of the product, non-compliance with manufacturers specifications of usage or any other circumstances in which the product has been subjected to forces or loads beyond its design. This warranty does not apply when the product has been modified.

This warranty does not apply when the serial number or production code has been deliberately altered, defaced or removed.

This warranty does not apply to normal wear and tear. Wear and tear parts are subject to damage as a result of normal use, failure to service according to SRAM recommendations and/or riding or installation in conditions or applications other than recommended.

Wear and tear parts are identified as:

- | | | |
|----------------------------|----------------------------|----------------------|
| • Dust seals | • Brake sleeves | • Bottomout pads |
| • Bushings | • Brake pads | • Bearings |
| • Air sealing o-rings | • Chains | • Bearing races |
| • Glide rings | • Sprockets | • Pawls |
| • Rubber moving parts | • Cassettes | • Transmission gears |
| • Foam rings | • Shifter and brake cables | • Spokes |
| • Rear shock mounting | (inner and outer) | • Free hubs |
| hardware and main seals | • Handlebar grips | • Aero bar pads |
| • Upper tubes (stanchions) | • Shifter grips | • Corrosion |
| • Stripped threads/bolts | • Jockey wheels | • Tools |
| (aluminium, titanium, | • Disc brake rotors | • Batteries |
| magnesium or steel) | • Wheel braking surfaces | |

This warranty shall not cover damages caused by the use of parts of different manufacturers. This warranty shall not cover damages caused by the use of parts that are not compatible, suitable and/or authorised by SRAM for use with SRAM components.

SRAM Rise Wheels are intended for cross-country and trail riding only. Not intended for lift access (downhill) riding or aggressive all-mountain riding.

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For exploded diagram and part number information, please refer to the Spare Parts Catalog available on our website at www.sram.com.

For order information, please contact your local SRAM distributor or dealer.

Information contained in this document is subject to change at any time without prior notice.

Your product's appearance may differ from the pictures/diagrams contained in this document.

Product names used in this document may be trademarks or registered trademarks of others.

TABLE OF CONTENTS

RISE 60 FRONT HUB SERVICE	5
TOOLS NEEDED FOR SERVICE.....	5
REPLACEMENT PARTS	5
DISASSEMBLY	6
REASSEMBLY	8
RISE 60 REAR HUB SERVICE	10
TOOLS NEEDED FOR SERVICE.....	10
REPLACEMENT PARTS	10
HUB DISASSEMBLY	11
FREEHUB DRIVER DISASSEMBLY	12
FREEHUB DRIVER REASSEMBLY	13
HUB REASSEMBLY	14
WHEEL BUILD & SPOKE REPLACEMENT	17
TOOLS NEEDED FOR SERVICE.....	17
REPLACEMENT PARTS	17
FRONT WHEEL LACING	18
REAR WHEEL LACING	19



SAFETY FIRST!

We care about YOU. Please, always wear your safety glasses and protective gloves when servicing your wheels.

Protect yourself! Wear your safety gear!

RISE 60 FRONT HUB SERVICE

TOOLS NEEDED FOR SERVICE

Safety glasses

Nitrile gloves

Wheels Manufacturing Press-1 Sealed Bearing Press Kit
(2) 6804 Adapters, and (1) 6805 Over-Axle Adapter
from Press-1 Kit

Wheels Manufacturing Press-3 Over Axle Bearing Adapter Kit
(2) 6804 Over-Axle Adapters from Press-3 Kit

Enduro Universal Blind Hole Bearing Puller Set BBT-100

Grease

Grease brush

Isopropyl alcohol and clean rags

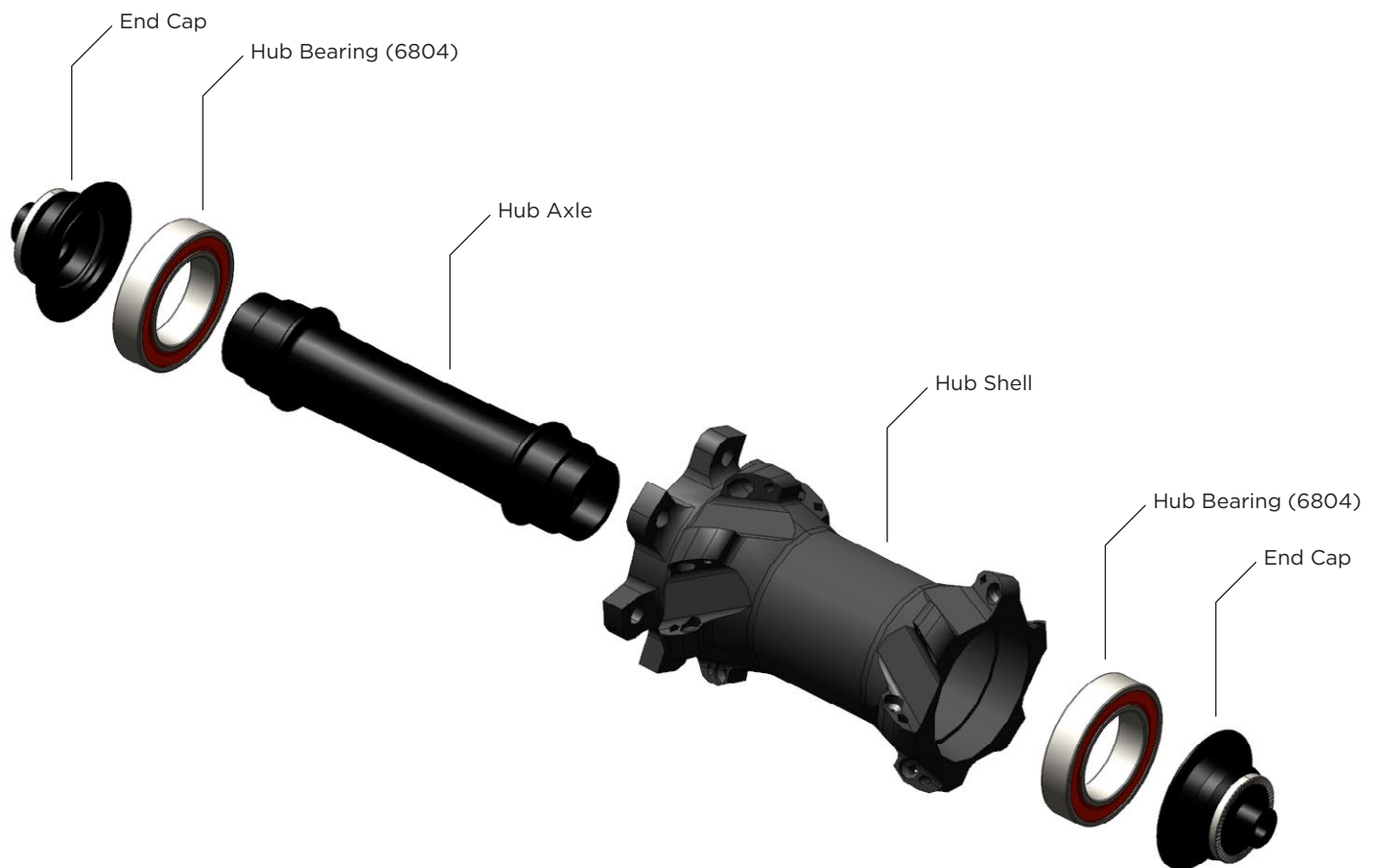
Rubber or plastic mallet

Needle nose pliers

Axle vise

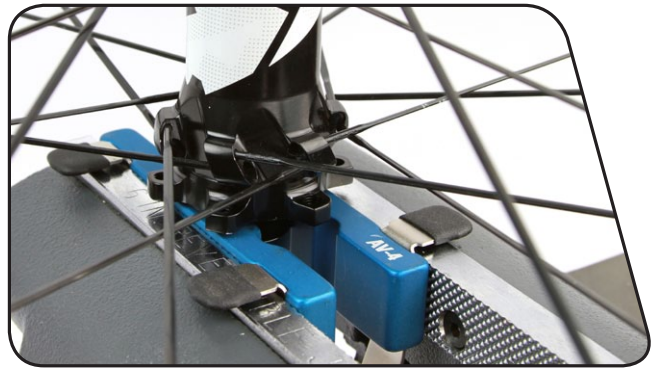
REPLACEMENT PARTS

For spare part number information, please refer to the Spare Parts Catalog available on our website at www.sram.com.



DISASSEMBLY

- 1** Install an axle vise into a bench mounted vise.
Insert the non-drive side endcap into the axle vise, tighten the vise, and then pull the wheel vertically to remove the end cap from the hub.



- 2** Tap the non-drive side end of the axle with a rubber mallet to remove the drive side end cap, bearing, and the axle from the hub shell.



- 3** Remove the drive side end cap and bearing from the axle by hand.



4 Insert the 20 mm slide hammer bearing puller slotted attachment through the non-drive side bearing, and tighten it inside the bearing.

Thread the shaft of the bearing puller into the attachment. Forcefully pull back on the slide of the bearing puller to remove the bearing and hub seal from the hub shell.

Remove the bearing from the slide hammer bearing puller.



REASSEMBLY

- 5** Clean the interior of the hub shell with isopropyl alcohol and a clean rag.



- 6** Install a 6804 bearing press adapter and a new bearing onto the bearing press. Slide the threaded rod of the bearing press through the non-drive side of the hub shell and out of the drive side.

Install a 6805 adapter onto the threaded rod, and then install the bearing press handle.

Turn the bearing press handle clockwise to press the bearing into the hub until it stops. Do not overtighten the bearing press.



- 7** Insert one end the axle into the hub shell and press it into the non-drive side bearing by hand.



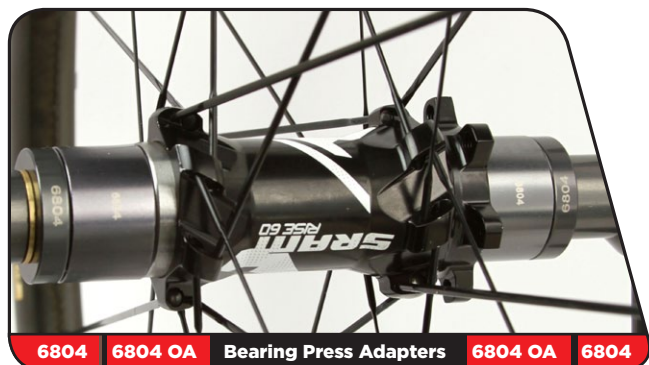
8 Press a new bearing onto the drive side end of the axle by hand.



9 Install a 6804 bearing press adapter and a 6804 Over-Axle adapter onto the bearing press. Slide the threaded rod of the bearing press through the non-drive side end of the axle and out of the drive side of the axle.

Install another 6804 Over-Axle adapter and a 6804 adapter onto the threaded rod, and then install the bearing press handle.

Turn the bearing press handle clockwise to press the bearing into the hub until it stops. Do not overtighten the bearing press.



10 Press the end caps back onto the axle by hand.



RISE 60 REAR HUB SERVICE

TOOLS NEEDED FOR SERVICE

Safety glasses

Nitrile gloves

Wheels Manufacturing Press-1 Sealed Bearing Press Kit
(2) 6902 Adapters from Press-1 Kit

Wheels Manufacturing Press-3 Over Axle Bearing Adapter Kit
(2) 6802 Over-Axle Adapters, (1) 15 mm spacer from Press-3 Kit

Enduro Universal Blind Hole Bearing Puller Set BBT-100

Grease

Grease brush

Isopropyl alcohol and clean rags

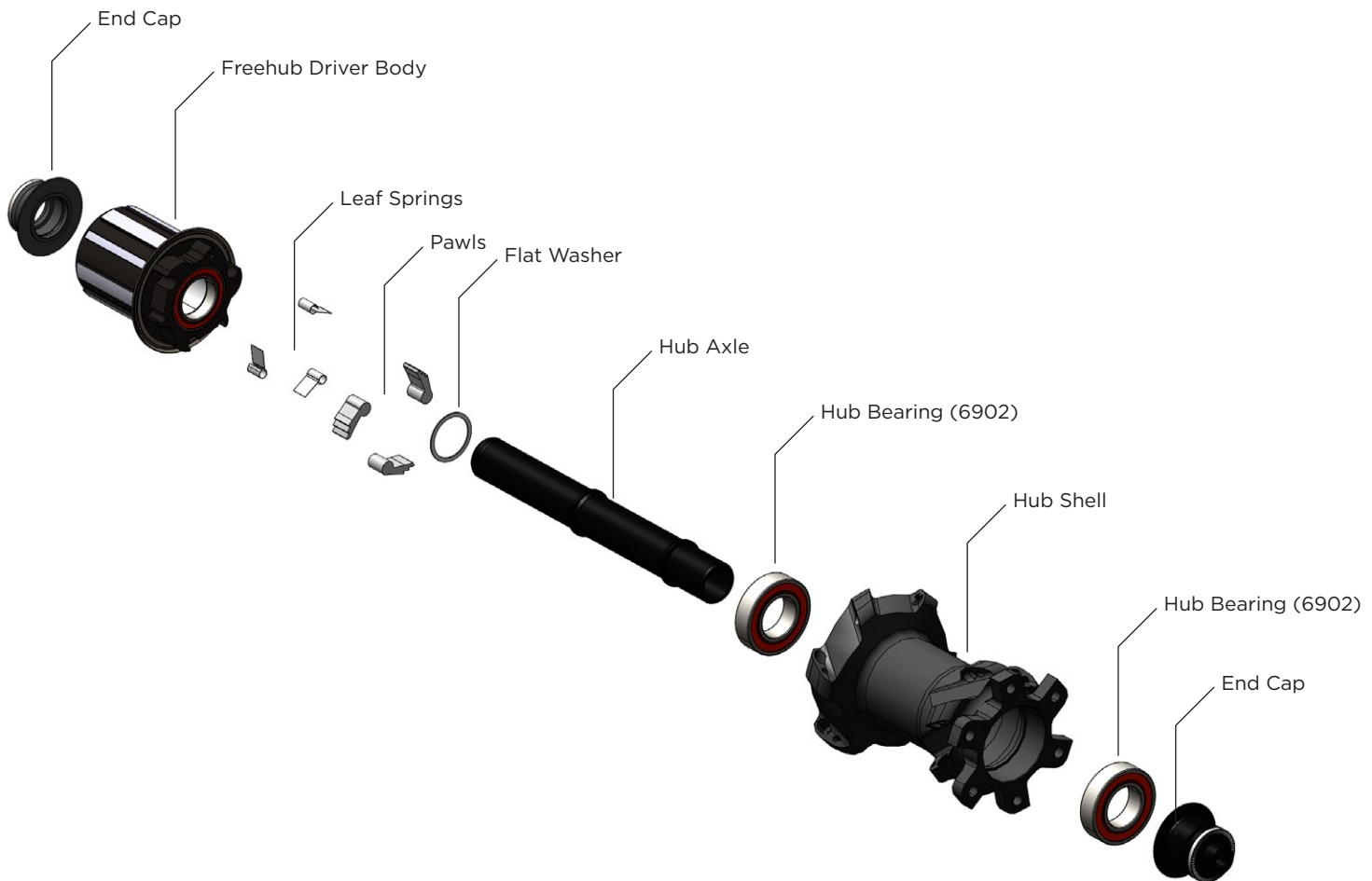
Rubber or plastic mallet

Needle nose pliers

Axle vise

REPLACEMENT PARTS

For spare part number information, please refer to the Spare Parts Catalog available on our website at www.sram.com.



HUB DISASSEMBLY

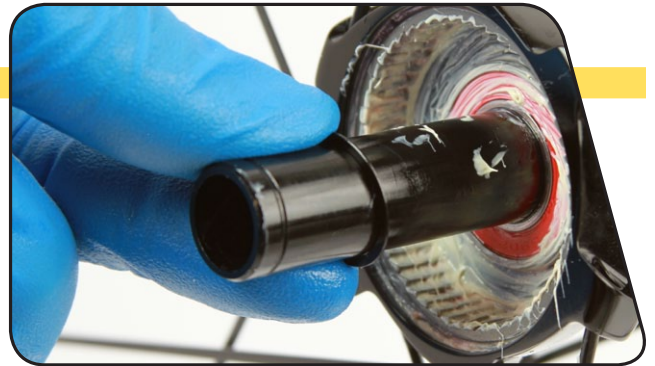
- 1** Pull the freehub driver body and drive side end cap from the hub shell to remove them from the axle.



- 2** Remove the flat washer from the face of the drive side bearing (or less frequently, from the axle) and set it aside.

IMPORTANT:

The washer is critical to hub performance. The hub will not operate properly without the washer installed.



- 3** Tap the drive side end of the axle with a rubber mallet to remove the non-drive side end cap, non-drive side bearing, and the axle from the hub shell.



- 4** Insert the 20 mm slide hammer bearing puller slotted attachment through the drive side bearing, and tighten it inside the bearing.

Thread the shaft of the bearing puller into the attachment, and then forcefully remove the bearing from the hub shell.

Uninstall the bearing from the slide hammer bearing puller.

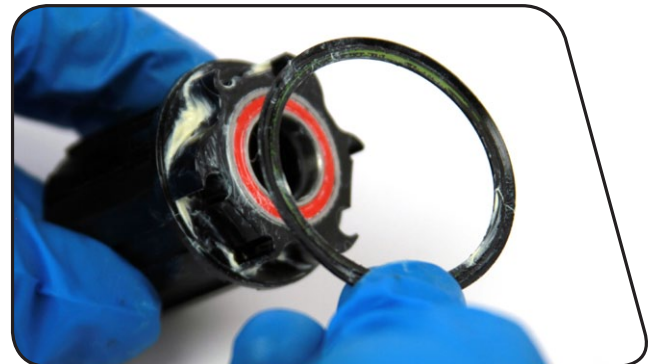


FREEHUB DRIVER DISASSEMBLY

- 5** Use your fingers or needle nose pliers to carefully remove the pawls and leaf springs. Inspect the pawls and leaf springs for signs of damage or wear. If *any* of the pawls or leaf springs exhibit signs of wear or damage, replace *all* of them. Otherwise, remove any grease on the pawls and leaf springs with a clean rag.



- 6** Use your fingers to remove the external lip seal. Inspect the external lip seal for signs of damage or wear. If there are any signs of damage or wear, replace it. Otherwise, remove any grease on the external lip seal with a clean rag.

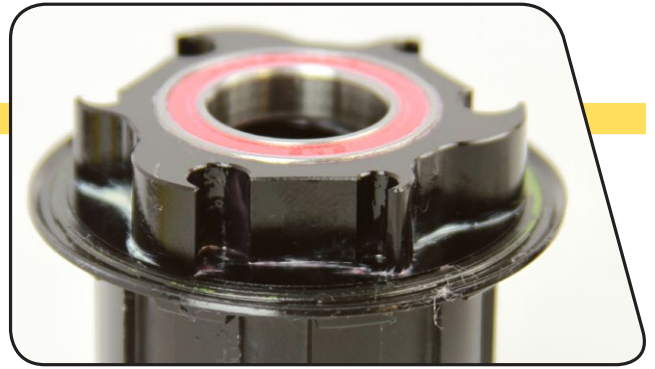


FREEHUB DRIVER REASSEMBLY

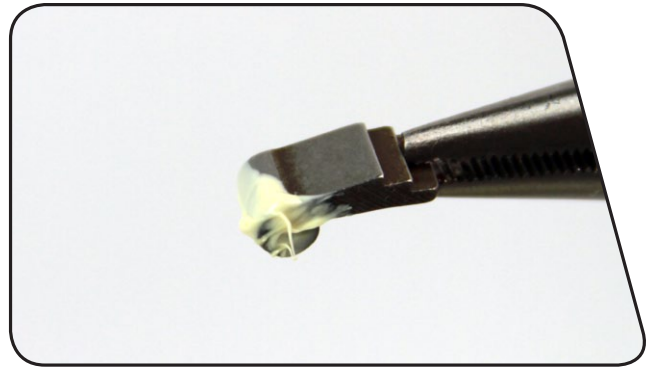
- 7** Press the external lip seal, with the smooth side facing the driver body, over the leaf spring and pawl carrier.

IMPORTANT:

The external lip seal must be seated against the thin shoulder of the driver body.



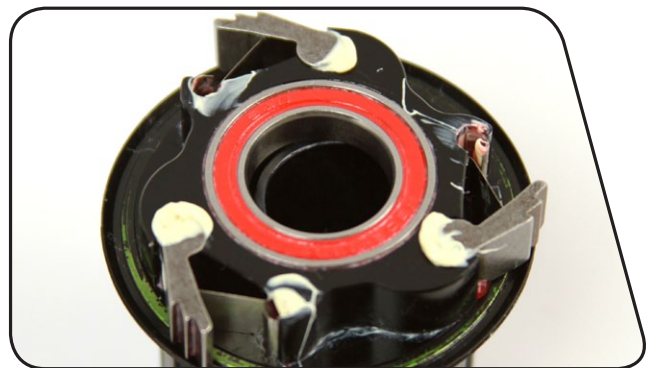
- 8** Apply a small amount of grease to the rounded end of the leaf springs and pawls.



- 9** Insert the leaf springs into the spring slots. Orient the long edge of each spring along the inside of the carrier so that it points clockwise.



- 10** Insert the pawls into the pawl slots. You may need to use a pick to compress each leaf spring to assist with inserting the pawls. Orient the cambered edge (the edge that is slightly more curved) of each pawl along the outside of the carrier so that it points counter-clockwise.



HUB REASSEMBLY

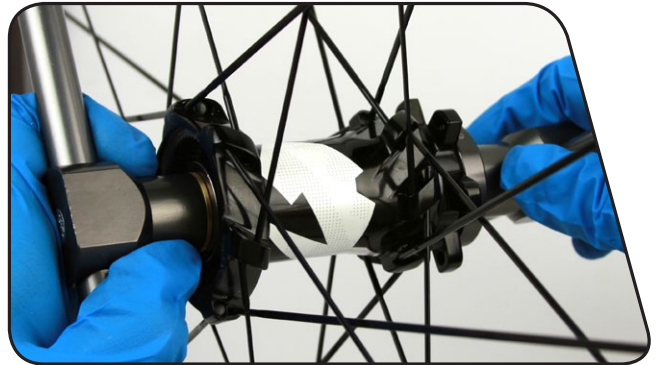
- 11** Clean the interior of the hub shell with isopropyl alcohol and a clean rag.



- 12** Install a 6902 bearing press adapter and a new bearing onto the bearing press. Slide the threaded rod of the bearing press through the drive side of the hub shell and out of the non-drive side.

Install a 6805 bearing press adapter onto the threaded rod, and then install the bearing press handle.

Turn the bearing press handle clockwise to press the bearing into the hub until it is hand-tight. Do not overtighten the bearing press.



- 13** Insert the long, smooth section of the axle into the non-drive side of the hub shell so that it comes through the drive side bearing.



- 14** Install a new bearing onto the non-drive side end of the axle by hand.



- 15** Install a 6802 Over-Axle bearing press adapter and a 6902 adapter onto the bearing press. Slide the threaded rod of the bearing press through the non-drive side end of the axle and out of the drive side of the axle.

Install a 6902 Adapter, a 15 mm spacer, and a 6802 Over-Axle adapter onto the threaded rod. Install the bearing press handle.

Turn the bearing press handle clockwise to press the bearing into the hub until it is hand-tight. Do not overtighten the bearing press.



- 16** Evenly apply a small amount of grease to the driver body ratchet ring.



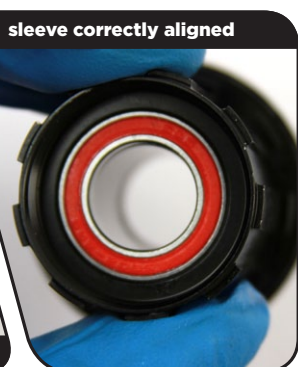
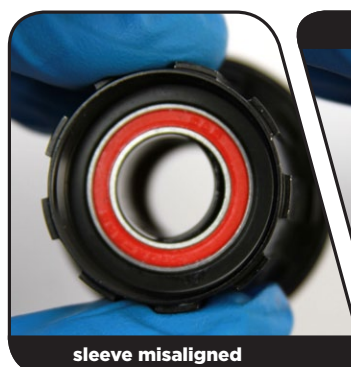
- 17** Slide the flat washer over the axle until it rests on the leaf spring and pawl carrier.



- 18** Insert the freehub driver body into the hub shell, being careful to align the splines of the freehub driver body with those in the hub shell.

NOTICE

The driver body has a floating sleeve that can become offset during hub disassembly. If this occurs, use your finger to realign and center the sleeve.



- 19** Press the end caps back onto the axle by hand.

IMPORTANT:

Do not apply grease to the ends of the axle, the inside of the end caps, or the o-rings inside the end caps.



WHEEL BUILD & SPOKE REPLACEMENT

This portion of the service guide covers general wheel build and spoke replacement. As there are many different methods for spoke tensioning, the following information provides the final spoke tension you should achieve using your preferred method for spoke tensioning.

TOOLS NEEDED FOR SERVICE

Safety glasses

Bladed spoke adjustment tool (ex. Park Tool® BSH-4)

Spoke wrench for 5.5 mm external spoke nipples

Tensiometer with tension conversion chart

Truing stand

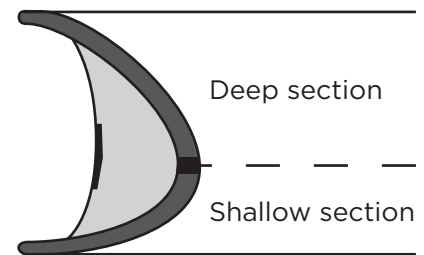
REPLACEMENT PARTS

For part numbers, please refer to the SRAM Wheels Spare Parts List in the Service section of www.sram.com.

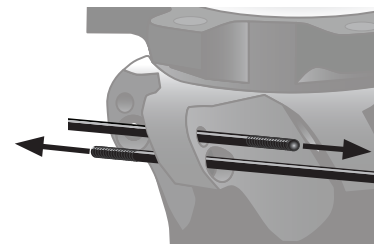
		Spoke Count	Spoke Length 26	Spoke Length 29	Final Spoke Tension
Front Wheel	Drive side	12	266 mm	296 mm	85 kgf ± 10 kgf (833 N ± 98 N)
	Non-drive side	12	264 mm	294 mm	100 kgf ± 10 kgf (980 N ± 98 N)
Rear Wheel	Drive side	12	264 mm	294 mm	100 kgf ± 10 kgf (980 N ± 98 N)
	Non-drive side	12	266 mm	296 mm	85 kgf ± 10 kgf (833 N ± 98 N)

FRONT WHEEL LACING

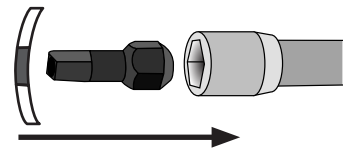
1. Orient the rim so that the deep section of the rim is facing up, and the brake rotor mounting tabs of the hub (the non-drive side of the hub) are also facing up.



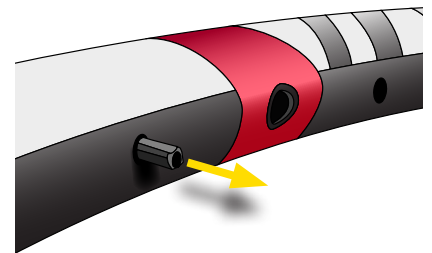
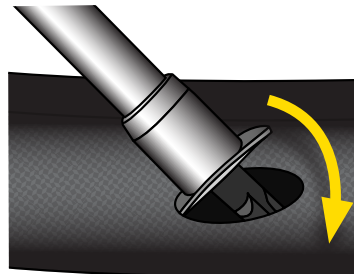
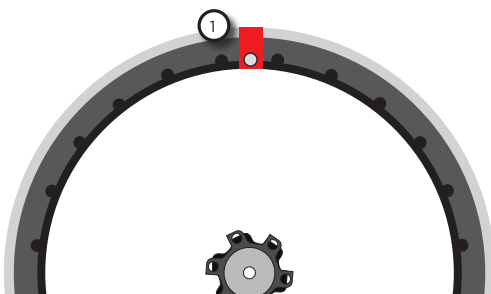
2. Insert a 266 mm (296 mm for 29 inch wheel) spoke into each of the countersunk holes of the drive side hub flange (the side without disc rotor tabs).
3. Insert a 264 mm (294 mm for 29 inch wheel) spoke into each of the countersunk holes of the non-drive side hub flange.



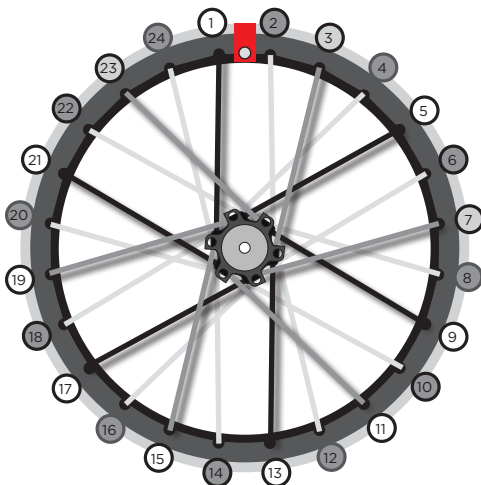
4. Insert a spoke nipple into the 5.5 mm spoke wrench. Install a curved washer onto the spoke nipple as illustrated.



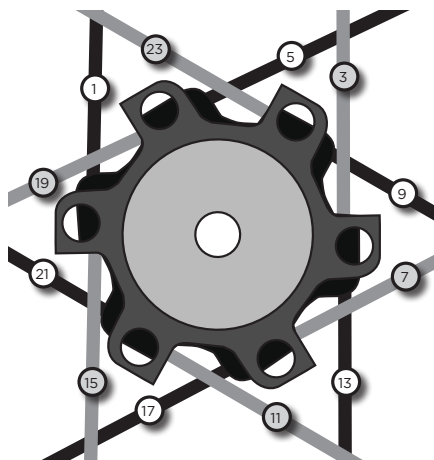
5. Locate spoke hole ① on the spoke bed. Insert the end of the spoke nipple into spoke hole ①, and use a rocking motion to carefully guide the spoke nipple and the curved washer into the spoke hole, and the end of the spoke nipple out of the inner wall of the rim.



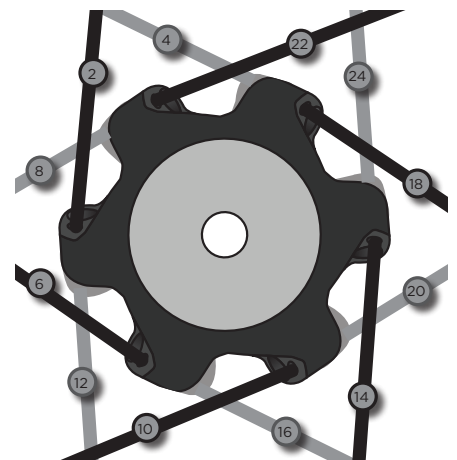
6. Align the SRAM logo on the hub with the valve stem hole in the rim.
7. Thread the end of spoke ① into the spoke nipple you inserted into valve hole ①. Continue to thread the spoke into the spoke nipple until no threads are showing on the spoke.
8. Repeat steps 5 & 7, following the illustrated lacing pattern, to finish installing the remaining 23 spokes.



Spoke Lacing Pattern
(viewed from non-drive side)



Non-Drive Side Spoke Lacing Detail

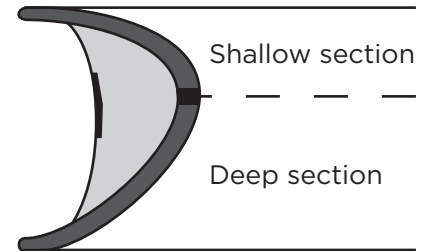


Drive Side Spoke Lacing Detail

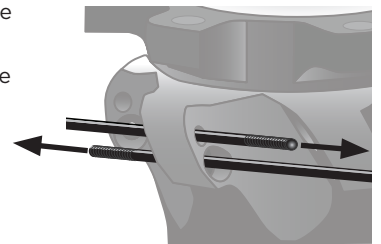
9. Use a spoke wrench to turn each of the the **drive side spokes** in 1/2 turn increments until the **drive side spoke tension** is at approximately 30-40% of the final value: **85 kgf \pm 10 kgf (833 N \pm 98 N)**.
10. Install the wheel into a truing stand. Use a spoke wrench to turn each of the the **non-drive side spokes** in 1/2 turn increments to increase the spoke tension until the **non-drive side spoke tension** is at approximately 30-40% of the final value: **100 kgf \pm 10 kgf (980 N \pm 98 N)**.
11. Continually check for roundness (vertical movement) and trueness (side-to-side movement):
Control wheel roundness by tightening/loosening the drive side spokes.
Control wheel trueness by tightening/loosening the non-drive side spokes.
12. Continue tightening both drive side and non-drive side spokes in 1/8 - 1/4 turn increments until you achieve the final **drive side** spoke tension value of **85 kgf \pm 10 kgf (833 N \pm 98 N)**, a final **non-drive side** spoke tension value of **100 kgf \pm 10 kgf (980 N \pm 98 N)**, and the wheel is round and true.

REAR WHEEL LACING

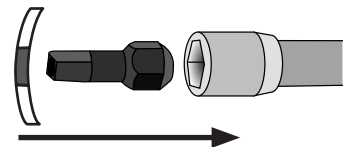
1. Orient the rim so that the shallow section of the rim is facing up, and the brake rotor mounting tabs of the hub (the non-drive side of the hub) are also facing up.



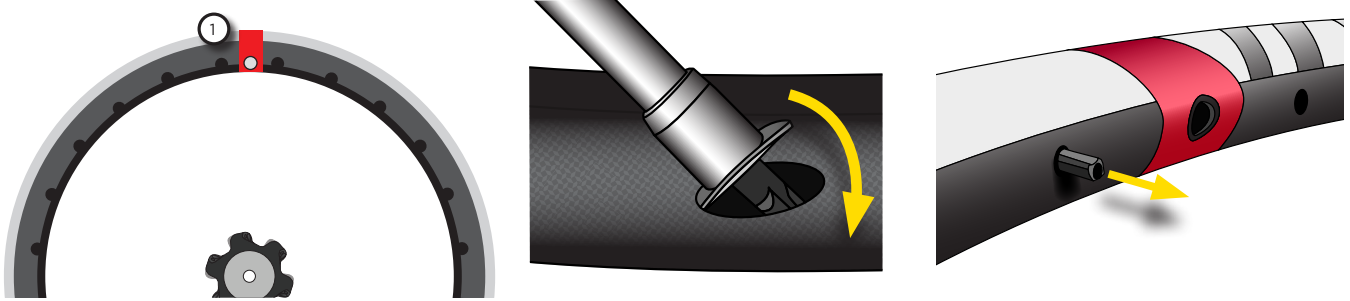
2. Insert a 264 (294 mm for 29 inch wheel) mm spoke into each of the countersunk holes of the drive side hub flange.
3. Insert a 266 mm (296 mm for 29 inch wheel) spoke into each of the countersunk holes of the non-drive side hub flange.



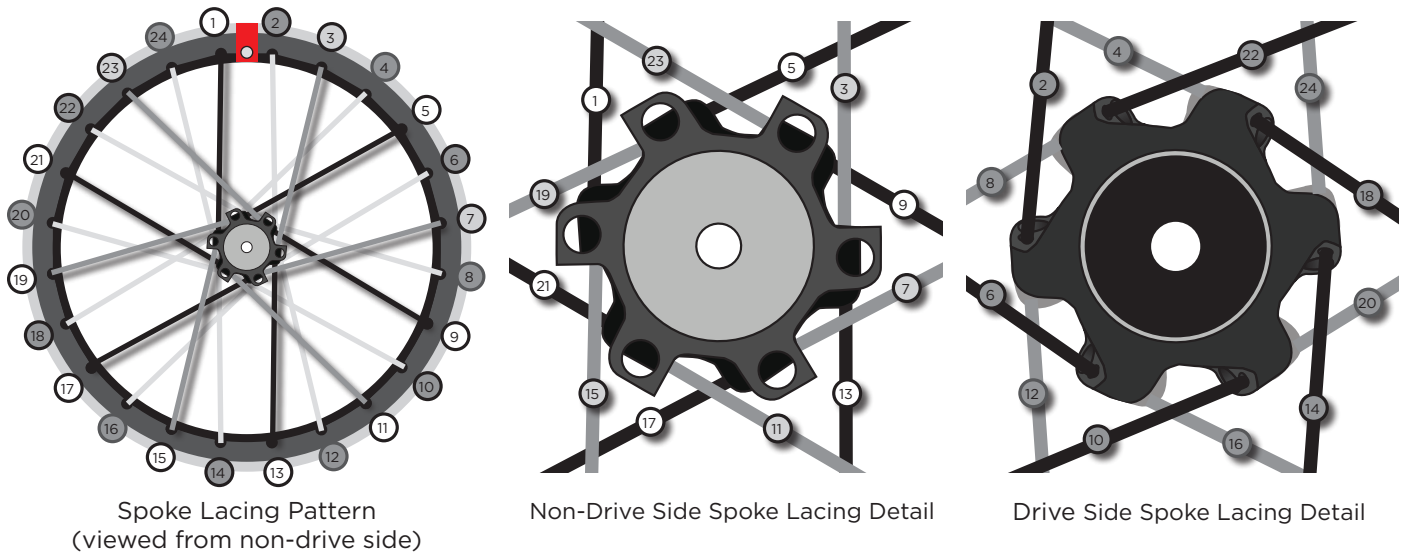
4. Insert a spoke nipple into the 5.5 mm spoke wrench. Install a curved washer onto the spoke nipple as illustrated.



5. Locate spoke hole ① on the spoke bed. Insert the end of the spoke nipple into spoke hole ①, and use a rocking motion to carefully guide the spoke nipple and the curved washer into the spoke hole, and the end of the spoke nipple out of the inner wall of the rim.



6. Align the SRAM logo on the hub with the valve stem hole in the rim.
7. Thread the end of spoke ① into the spoke nipple you inserted into valve hole ①. Continue to thread the spoke into the spoke nipple until no threads are showing on the spoke.
8. Repeat steps 5 & 7, following the illustrated lacing pattern, to finish installing the remaining 23 spokes.



9. Use a spoke wrench to turn each of the the **drive side spokes** in 1/2 turn increments until the **drive side spoke tension** is at approximately 30-40% of the final value: **100 kgf ± 10 kgf (980 N ± 98 N)**.
10. Install the wheel into a truing stand. Use a spoke wrench to turn each of the the **non-drive side spokes** in 1/2 turn increments to increase the spoke tension until the **non-drive side spoke tension** is at approximately 30-40% of the final value: **85 kgf ± 10 kgf (833 N ± 98 N)**.
11. Continually check for roundness (vertical movement) and trueness (side-to-side movement):
Control wheel roundness by tightening/loosening the drive side spokes.
Control wheel trueness by tightening/loosening the non-drive side spokes.
12. Continue tightening both drive side and non-drive side spokes in 1/8 - 1/4 turn increments until you achieve the final **drive side** spoke tension value of **100 kgf ± 10 kgf (980 N ± 98 N)**, a final **non-drive side** spoke tension value of **85 kgf ± 10 kgf (833 N ± 98 N)**, and the wheel is round and true.

[www.sram.com]